In the Drawings

A "Replacement Sheet" is attached which includes a clean version of amended Figures 1A, 1B and 2. The attached sheet replaces the original sheet including Figures 1A, 1B and 2. Figures 1A, 1B and 2 have been amended to include the legend –Prior Art–, as requested in the Office Action.

In the Claims

Please replace all prior versions, and listings, of claims in the application with the following list of claims:

1. (Currently amended) A semiconductor component in which [[the]] active junctions extend along at least one cylinder perpendicular to main surfaces of a semiconductor chip substantially across an entire thickness thereof, said at least one cylinder having a cross-section with [[an]] a regularly undulated closed curve shape.

2. (Previously presented) The semiconductor component of claim 1, wherein said undulated curve is a curve of Sierpinksi curve type.

3. (Currently amended) The semiconductor component of claim 1, wherein [[the]] contacts with regions to be connected are [[taken]] made by conductive fingers perpendicular to the main surfaces of the semiconductor chip and substantially crossing [[the]] an entire region with which a contact is desired to be established.

4. (Previously presented) The semiconductor component of claim 3, wherein the conductive fingers are metal fingers.

5. (Previously presented) The semiconductor component of claim 1, wherein the semiconductor component is of multicellular type, and the junctions are formed of several cylinders perpendicular to the main substrate surfaces.

6. (Currently amended) The semiconductor component of claim 3, wherein [[said]] at least one of the conductive [[finger]] fingers is solid, ~~with the~~ wherein at least a portion of at least one of the conductive fingers contacts ~~most external semiconductor layer forms a cylinder or cylinder portions surrounding said~~ a most external semiconductor layer.

7. (Previously presented) A diode according to claim 1, comprising a central conductive finger extending across the entire substrate thickness surrounded with a region of a first conductivity type and with a region of a second conductivity type, a contact being taken back at the periphery of the region of the second conductivity type by at least one peripheral conductive finger, the central conductive finger being connected to a first metallization extending over an entire substrate surface, and said at least one peripheral conductive finger being connected to a metallization on the other substrate surface.

8. (Currently amended) ~~The diode of~~ A diode according to claim 5, formed in an N-type semiconductor substrate, wherein the conductive fingers penetrating into the N-type regions are surrounded with heavily-doped N-type regions.

9. (Withdrawn) A bipolar transistor according to claim 1, alternately comprising a region of a first conductivity type, a region of a second conductivity type, and a region of the first conductivity type, each of these regions extending across the entire substrate thickness and being in contact by at least one conductive finger, each of the conductive fingers being respectively connected to an emitter metallization, to a base metallization, and to a collector metallization.

10. (Withdrawn) A thyristor according to claim 1, successively comprising a first region of a first conductivity type, a second region of the second conductivity type, a third region of the first conductivity type, and a fourth region of the second conductivity type, each of these regions extending across the entire substrate thickness, a conductive finger extending into the entire first region, at least one conductive finger extending into the entire second region, and at least one conductive finger extending into the entire fourth region.

11. (Withdrawn) The thyristor of claim 8, wherein the first conductivity type is type N, the second conductivity type is type P, the first region being a cathode region and the fourth region an anode region, and wherein localized metallizations extend vertically between the gate region and the cathode region to form localized gate-cathode short-circuits.

12. (New) A semiconductor component, comprising:

a substrate;

a first region of a first conductivity type;

a second region of a second conductivity type; and

a p-n junction between the first region and the second region along a surface that extends through the substrate, wherein the surface has a cross section with a wavy shape.

13. (New) The semiconductor component of claim 12, wherein at least a portion of the wavy shape is a fractal curve.

14. (New) The semiconductor component of claim 13, wherein the portion is a curve of Sierpinksi curve type.

15. (New) The semiconductor component of claim 12, wherein the wavy shape comprises regularly spaced lobes.

16. (New) The semiconductor component of claim 12, wherein the wavy shape has a clover-like shape.

17. (New) The semiconductor component of claim 12, further comprising:

a first contact that extends through the substrate and contacts the first region; and

a second contact that extends through the substrate.

18. (New) The semiconductor component of claim 17, wherein the first contact and the second contact are metal contacts.

19. (New) The semiconductor component of claim 12, wherein the p-n junction is at a junction of the first region and the second region.

20. (New) The semiconductor component of claim 17, wherein the first region of the first conductivity type comprises a highly doped region of the first conductivity type that contacts the first contact.

21. (New) The semiconductor component of claim 17, further comprising a first metallization that contacts the first contact, the first metallization being on a first main surface of the substrate.

22. (New) The semiconductor component of claim 21, further comprising a second metallization that contacts the second contact, the second metallization being on a second main surface of the substrate.

23. (New) The semiconductor component of claim 22, wherein the first main surface and the second main surface are on opposing sides of the substrate.

24. (New) The semiconductor component of claim 12, wherein the first conductivity type is type N and the second conductivity type is type P.

25. (New) The semiconductor component of claim 12, wherein the semiconductor component comprises a diode.

26. (New) The semiconductor component of claim 25, wherein the semiconductor component comprises a plurality of diodes in the substrate.

27. (New) The semiconductor component of claim 26, wherein at least two of the plurality of diodes are connected in parallel or series.

28. (New) The semiconductor component of claim 17, wherein the second contact contacts the second region.

29. (New) The semiconductor component of claim 12, wherein the semiconductor component comprises at least four p-n junctions, wherein each of the four p-n junctions is along a surface that extends through the substrate, wherein the surface has a cross section with a wavy shape.

30. (New) The semiconductor component of claim 29, wherein the semiconductor component comprises at least nine p-n junctions, wherein each of the nine p-n junctions is along a surface that extends through the substrate, wherein the surface has a cross section with a wavy shape.

31. (New) The semiconductor component of claim 30, wherein the semiconductor component comprises at least sixteen p-n junctions, wherein each of the sixteen p-n junctions is along a surface that extends through the substrate, wherein the surface has a cross section with a wavy shape.

32. (New) The semiconductor component of claim 12, wherein the cross section comprises a closed curve with a wavy shape.

33. (New) A semiconductor component in which active junctions extend along at least one surface that is perpendicular to main surfaces of a semiconductor chip and substantially across an entire thickness thereof, said at least one surface having a cross-section parallel to the main surfaces, wherein the cross-section has a regularly undulating curve shape.

34. (New) The semiconductor component of claim 33, wherein said undulating curve is a curve of Sierpinksi curve type.

35. (New) The semiconductor component of claim 33, wherein contacts with regions to be connected are made by conductive fingers perpendicular to the main surfaces of the semiconductor chip and substantially crossing an entire region with which a contact is desired to be established.

36. (New) The semiconductor component of claim 35, wherein the conductive fingers are metal fingers.

37. (New) The semiconductor component of claim 33, wherein the semiconductor component is of multicellular type, and the junctions are formed of several surfaces perpendicular to the main substrate surfaces.

38. (New) The semiconductor component of claim 35, wherein at least one of the conductive fingers is solid, wherein at least a portion of at least one of the conductive fingers contacts a most external semiconductor layer.

39. (New) A diode according to claim 33, comprising a central conductive finger extending across the entire substrate thickness surrounded with a region of a first conductivity type and with a region of a second conductivity type, a contact being taken back at the periphery of the region of the second conductivity type by at least one peripheral conductive finger, the central conductive finger being connected to a first metallization extending over an entire substrate surface, and said at least one peripheral conductive finger being connected to a metallization on the other substrate surface.

40. (New) A diode according to claim 37, formed in an N-type semiconductor substrate, wherein the conductive fingers penetrating into the N-type regions are surrounded with heavily-doped N-type regions.

41. (New) The semiconductor component of claim 33, wherein the curve is a closed curve.